

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/052023

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 F02D41/30 F02D41/40 F02D37/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 F02D F02P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 889 218 A (NISSAN MOTOR) 7 January 1999 (1999-01-07) page 2, lines 28-35; figure 9 page 8, lines 17-46	1, 3-5
X	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 01, 31 January 1997 (1997-01-31) -& JP 08 240119 A (NISSAN MOTOR CO LTD), 17 September 1996 (1996-09-17) abstract; figure 12 paragraphs '0005!, '0015!	1
Y	US 5 168 851 A (ITOYAMA HIROYUKI ET AL) 8 December 1992 (1992-12-08) abstract	6-8
Y		6-8
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the International search report
11 January 2005	26/01/2005

Name and mailing address of the ISA  
European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel: (+31-70) 340-2040, Tx: 31 651 epo nl  
Fax: (+31-70) 340-3016

Authorized officer

Röttger, K

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/052023

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/052253 A (BOSCH GMBH ROBERT ; WAGNER JENS (DE); WENZLER THOMAS (DE)) 26 June 2003 (2003-06-26) page 17, line 9 - page 19, line 10 figure 2	1,3-5,9, 10
X	EP 1 081 364 A (NISSAN MOTOR) 7 March 2001 (2001-03-07) paragraphs '0146! - '0157!; figures 10,13	1,3-5,9
P,X	WO 2004/055351 A (BOSCH GMBH ROBERT ; KUFFERATH ANDREAS (DE); WAGNER JENS (DE)) 1 July 2004 (2004-07-01) page 4, line 8 - page 6, line 18; claim 1	1,3-5,9
E	DE 103 34 401 B (SIEMENS AG) 25 November 2004 (2004-11-25) claims 1,2,4	1-5,9,10
A	DE 101 46 504 A (HONDA MOTOR CO LTD) 29 May 2002 (2002-05-29) abstract paragraphs '0007! - '0009!, '0038! - '0041! paragraphs '0051! - '0073!	1,9

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/052023

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0889218	A	07-01-1999	JP JP EP US	11022508 A 11022509 A 0889218 A2 6058905 A	26-01-1999 26-01-1999 07-01-1999 09-05-2000
JP 08240119	A	17-09-1996		NONE	
US 5168851	A	08-12-1992	JP JP	2636498 B2 4203248 A	30-07-1997 23-07-1992
WO 03052253	A	26-06-2003	DE WO EP US	10163022 A1 03052253 A2 1458966 A2 2004123834 A1	10-07-2003 26-06-2003 22-09-2004 01-07-2004
EP 1081364	A	07-03-2001	JP JP EP US	2001073912 A 2001082211 A 1081364 A2 6510834 B1	21-03-2001 27-03-2001 07-03-2001 28-01-2003
WO 2004055351	A	01-07-2004	DE WO	10258507 A1 2004055351 A1	01-07-2004 01-07-2004
DE 10334401	B	25-11-2004	DE	10334401 B3	25-11-2004
DE 10146504	A	29-05-2002	JP DE US	2002098033 A 10146504 A1 2002033164 A1	05-04-2002 29-05-2002 21-03-2002